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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

The MAILING DATE of this communication appears on the cover sheet with the correspondence address Period for Reply				
A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely field after SIX (6) MONTHS from the mailing date of this communication. - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication. - Failure to reply within the set or actended period for reply with the set or actended period for reply within the set or ac				
earned patent term adjustment. See 37 CFR 1.704(b).				
Status				
1) Responsive to communication(s) filed on 17 August 2007.				
2a)☑ This action is FINAL . 2b)☐ This action is non-final.				
3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is				
closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213.				
Disposition of Claims				
4) Claim(s) 30-74 is/are pending in the application.				
4a) Of the above claim(s) is/are withdrawn from consideration.				
5) Claim(s) is/are allowed.				
6)⊠ Claim(s) <u>30-74</u> is/are rejected.				
7) Claim(s) is/are objected to.				
8) Claim(s) are subject to restriction and/or election requirement.				
Application Papers				
9)☐ The specification is objected to by the Examiner.				
10) The drawing(s) filed on is/are: a) accepted or b) objected to by the Examiner.				
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).				
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).				
11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.				
Priority under 35 U.S.C. § 119				
12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of:				
 Certified copies of the priority documents have been received. 				
Certified copies of the priority documents have been received in Application No				
3. Copies of the certified copies of the priority documents have been received in this National Stage				
application from the International Bureau (PCT Rule 17.2(a)).				
* See the attached detailed Office action for a list of the certified copies not received.				

Attachment(s)		
1) Notice of References Cited (PTO-892) 2) Notice of Draftsperson's Patient Drawing Review (PTO-948) 3) Friermation-Diedicisure Statement(e) (PTO/SE/CB) Paper No(s)/Mail Date Paper No(s)/Mail Date	4) Interview Summary (PTO-413) Paper No(s)Mail Date. 5) Notice of Informal Patent Application 6) Other:	
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DETAILED ACTION

Response to Amendment

 This communication is in response to application's amendment filed on 8/17/2007. Claims 30-74 are newly added and pending, and claims 1-29 are canceled.

Claim Objections

Claim 74 is objected to because of the following informalities: the claim is incomplete/cut off at the end of the claim. Appropriate correction is required.

Claim Rejections - 35 USC § 103

- The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148
 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:
 - Determining the scope and contents of the prior art.
 - 2. Ascertaining the differences between the prior art and the claims at issue.
 - 3. Resolving the level of ordinary skill in the pertinent art.
 - Considering objective evidence present in the application indicating obviousness or nonobviousness.
- 4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- Claims 30, 33, 35, 38-41, 43-44, 46-47, 49-50, 52, 55-58, 60-61, 63-64, 66, 69-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art in view of Somasundaram (US2006/0013209).

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Regarding claim 30, the admitted prior art discloses establishing connection between PSTN terminal and VPN (see figures 1 and 2 and admitted prior art background page 2 line 30 to page 3 line 9) comprising:

- A plurality of virtual private networks 'VPNs' (see admitted prior art figure 2 ref 40 Blue VPN site, ref 50 Green VPN site) interconnected by a first data network (see admitted prior art figure 2 ref 30 VPN data network);
- A second data network (see admitted prior art figure 2 ref 20 PSTN)
 connected to the plurality of VPNs (see admitted prior art figure 2 ref
 40 Blue VPN site, ref 50 Green VPN site) via the first data network (see
 admitted prior art figure 2 ref 30 VPN data network), the second data
 network using a network addressing scheme that is different to a network
 addressing scheme used by at least one of the plurality of VPNs (see
 figure 2 ref20 PSTN and ref30 VPN data network and in the admitted
 prior art page 2 lines 4-10 includes Network address translators
 (NAT) therefore it is inherent that the first network addressing
 scheme and second network addressing scheme are different);
- A VPN gateway interfacing the first data network (see admitted prior art figure 2 ref 30 VPN data network) and a call server (see admitted prior art figure 2 ref 44 call server) in the second data network (see admitted prior art figure 2 ref 20 PSTN), the VPN gateway (see admitted prior art background page 1 lines 37-38) being configured to pass

communication session signaling traffic between an entity in one of the plurality of VPNs and the call server for establishing a communication session between the entity in one of the plurality of VPNs and an entity in an external network (see admitted prior art background page 2 lines 1-2), the external network handling communication session bearer traffic in a different format to that of the first data network (see admitted prior art background page 2 lines 5-8); and

The admitted prior art discloses all the subject matter of the claimed invention with the exception of:

A VPN converter interfacing the first and second data networks and
directly interfacing the first data network to the external network, the VPN
converter being configured to receive bearer traffic relating to the
communication session established between the entity in one of the
plurality of VPNs and the entity in the external network and to convert the
bearer traffic between a data format of the first data network and the
different format used in the external network.

Somasundaram from the same or similar fields of endeavor teaches the use of Service Provider Edge Box including Router/NAT Device (see Somasundaram figure 1 box 104), which interfaces the plurality of VPNs network (see Somasundaram figure 1 ref 103 VPN1 and ref114 ref116 and ref118) and the Service Provider Network (see Somasundaram figure 1 ref108 and paragraph 28 public domain) and translation table includes a plurality of entries. Each entry includes a VPN identifier or

VRF table identifier an "inside" local address, and an "outside" public address (see

Somasundaram paragraph 35 and figure 4). Thus, it would have been obvious to one
of ordinary skill in the art at the time of the invention to use the Service Provider Edge

Box including Router/NAT Device and the translation address scheme as taught by

Somasundaram in the system of the admitted prior art in order to provide network
address translator (NAT) function and enabling enterprise clients to be uniquely
addressable (see Somasundaram paragraphs 7-10).

Regarding claims 32 and 49, the admitted prior art and Somasundaram teach the plurality of VPNs is arranged to share the VPN converter as a common resource (see Somasundaram figure 1 box 104 service provider edge box including router/NET device).

Regarding claims 33, 50, 66, the admitted prior art and Somasundaram teach the VPN converter comprises a plurality of virtual routers, the plurality of virtual routers being provided for the plurality of VPNs such that each of the plurality of virtual routers is provided with an address for an address space of its respective one of the plurality of VPNs (see Somasundaram paragraph 35 line 1-14 and figure 4 box 412 "outside" public address).

Regarding claims 35 and 52, the admitted prior art and Somasundaram teach the bearer traffic handling format of the external network comprises one of IP (see paragraph 34 and figure 3), Asynchronous Transfer Mode 'ATM' (see paragraph 46 line 10), Multiprotocol Label Switching 'MPLS' (see paragraph 34 and figure 3) and TDM formats

Regarding claims 38, 55, 69, the admitted prior art and Somasundaram teach the VPN converter is arranged to determine which of the plurality of the VPNs the communication session signaling information relates to , and to associate VPN converter resources to a communication session associated with the identified VPN (see paragraphs 33 and 34 and figure 3 box 302 IP header, 310 MPLS tag).

Regarding claims 39, 56, and 70, the admitted prior art and Somasundaram teach the VPN converter is arranged to determine the VPN identity based on an external network address associated with the VPN entity (see paragraph 35 and figure 4 box 412 "outside" public address).

Regarding claims 40, 57, and 71, the admitted prior art and Somasundaram teach the VPN converter is arranged to determine the VPN identity based on a VPN identifier parameter provided by an entity of the VPN (see paragraph 35 and figure 4 box 406 "inside" local address).

Regarding claims 41, 58 and 72, the admitted prior art and Somasundaram teach the VPN converter is arranged to determine the VPN identity based on parameters associated with establishment of the communication session (see paragraph 34 line 1-6 and figure 3 box 312 provider edge device identifier).

Regarding claims 43, 60, the admitted prior art and Somasundaram teach the external network comprises a public switched telephone network 'PSTN' (see admitted prior art figure 2 ref20 PSTN and background page 2 line 37).

Regarding claims 44, 61, the admitted prior art and Somasundaram teach where more than one of the VPNs use private IP network addressing schemes, some of

the private IP network addressing schemes have overlapping address ranges (see admitted prior art background page 3 lines 4-6).

Regarding claims 46, 63, and 73, the admitted prior art and Somasundaram teach the VPN converter comprises a network address translation 'NAT' function and the NAT function is configured to provide a network address translation function to each of the virtual routers (see Somasundaram figure 1 box 104 Service Provider Edge Box including Router/NAT device and paragraph 10).

Regarding claim 47, the admitted prior art and Somasundaram teach a method of converting bearer traffic format in a communication system comprising:

A plurality of virtual private networks "VPNs" (see admitted prior art figure 2 ref 40 Blue VPN site, ref 50 Green VPN site) interconnected by a first data network (see admitted prior art figure 2 ref 30 VPN data network); a second data network (see admitted prior art figure 2 ref 20 PSTN) connected to the plurality of VPNs (see admitted prior art figure 2 ref 40 Blue VPN site, ref 50 Green VPN site) via the first data network (see admitted prior art figure 2 ref 30 VPN data network), the second data network using a network addressing scheme that is different to a network addressing scheme use by at least one of the plurality of VPNs (see figure 2 ref20 PSTN and ref30 VPN data network address translators (NAT) therefore it is inherent that the first network addressing scheme and second network addressing scheme are

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different); a VPN gateway interfacing the first data network (see admitted prior art figure 2 ref 30 VPN data network) and a call server (see admitted prior art figure 2 ref 44 call server) in the second data network (see admitted prior art figure 2 ref 20 PSTN); and

The admitted prior art discloses all the subject matter of the claimed invention with the exception of:

- a VPN converter interfacing the first and second data networks; the method comprising the steps of:
- · Directly interfacing the first data network to the external network;
- Configuring the VPN gateway to pass communication session signaling
 traffic between an entity in one of the plurality of VPNs and the call server
 for establishing a communication session between the entity in one of the
 plurality of VPNs and an entity in an external network, the external
 network handling communication session bearer traffic in a different
 format to that of the first data network; and
- Configuring the VPN converter to receive bearer traffic relating to the
 communication session established between the entity in one of the
 plurality of VPNs and the entity in the external network and to convert the
 bearer traffic between a data format of the first data network and the
 different format used in the external network.

Somasundaram from the same or similar fields of endeavor teaches the use of Service Provider Edge Box including Router/NAT Device (see Somasundaram figure 1 box

104), which interfaces the plurality of VPNs network (see Somasundaram figure 1 ref
103 VPN1 and ref114 ref116 and ref118) and the Service Provider Network (see
Somasundaram figure 1 ref108 and paragraph 28 public domain) and translation
table includes a plurality of entries. Each entry includes a VPN identifier or VRF table
identifier an "inside" local address, and an "outside" public address (see
Somasundaram paragraph 35 and figure 4), and interfaces that appropriate for
communication with the appropriate media (see Somasundaram paragraph 46). Thus,
it would have been obvious to one of ordinary skill in the art at the time of the invention
to use the Service Provider Edge Box including Router/NAT Device and the translation
address scheme as taught by Somasundaram in the system of the admitted prior art in
order to provide network address translator (NAT) function and enabling enterprise
clients to be uniquely addressable (see Somasundaram paragraphs 7-10).

Regarding claim 64, the admitted prior art and Somasundaram teach a virtual private network 'VPN; converter for a communication system (see figures 1 and 2 and admitted prior art background page 2 line 30 to page 3 line 9) comprising;

a plurality of virtual private networks 'VPNs' (see admitted prior art figure 2 ref 40 Blue VPN site, ref 50 Green VPN site) interconnected by a first data network (see admitted prior art figure 2 ref 30 VPN data network); a second data network (see admitted prior art figure 2 ref 20 PSTN) connected to the plurality of VPNs (see admitted prior art figure 2 ref 40 Blue VPN site, ref 50 Green VPN site) via the first data network (see admitted prior art figure 2 ref 30 VPN data network), the second data network using a network addressing scheme that is different to a netowkr

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addressing scheme used by at least one of the plurality of VPNs (see figure 2 ref20 PSTN and ref30 VPN data network and in the admitted prior art page 2 lines 4-10 includes Network address translators (NAT) therefore it is inherent that the first network addressing scheme and second network addressing scheme are different); and a VPN gateway interfacing the first data network (see admitted prior art figure 2 ref 30 VPN data network) and a call server (see admitted prior art figure 2 ref 44 call server) in the second data network (see admitted prior art figure 2 ref 20 PSTN), the VPN gateway (see admitted prior art background page 1 lines 37-38) being configured to pass communication session signaling traffic between an entity in one of the plurality of VPNs and the call server for establishing a communication session between the entity in one of the plurality of VPNs and an entity in an external network (see admitted prior art background page 2 lines 1-2), the external network handling communication session bearer traffic in a different format to that of the first data network (see admitted prior art background page 2 lines 5-8): The admitted prior art discloses all the subject matter of the claimed invention with the exception of:

- · the VPN converter comprising:
- Interfaces for interfacing the first and second data networks and directly interfacing the first data network to the external network,
- Means for receiving bearer traffic relating to the communication session established between the entity in one of the plurality of VPNs and the entity in the external network; and

> Means for converting the bearer traffic between a data format of the first data network and the different format used in the external network.

Somasundaram from the same or similar fields of endeavor teaches the use of Service Provider Edge Box including Router/NAT Device (see Somasundaram figure 1 box 104), which interfaces the plurality of VPNs network (see Somasundaram figure 1 ref 103 VPN1 and ref114 ref116 and ref118) and the Service Provider Network (see Somasundaram figure 1 ref108 and paragraph 28 public domain) and translation table includes a plurality of entries. Each entry includes a VPN identifier or VRF table identifier an "inside" local address, and an "outside" public address (see Somasundaram paragraph 35 and figure 4). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the Service Provider Edge Box including Router/NAT Device and the translation address scheme as taught by Somasundaram in the system of the admitted prior art in order to provide network address translator (NAT) function and enabling enterprise clients to be uniquely addressable (see Somasundaram paragraphs 7-10).

Regarding claim 74, the admitted prior art and Somasundaram teach a computer readable medium storing computer readable instructions which, when executed by a processor of a computing device, cause the computing device to implement, in communication system comprising:

a plurality of virtual private networks 'VPNs' (see admitted prior art figure 2 ref 40 Blue VPN site, ref 50 Green VPN site) interconnected by a first data network (see admitted prior art figure 2 ref 30 VPN data network); a second data network (see

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admitted prior art figure 2 ref 20 PSTN) connected to the plurality of VPNs (see admitted prior art figure 2 ref 40 Blue VPN site, ref 50 Green VPN site) via the first data network (see admitted prior art figure 2 ref 30 VPN data network); a second data network connected to the plurality of VPNs via the first data network, the second data network using a network addressing scheme that is different to a network addressing scheme used by at least one of the plurality of VPNs (see figure 2 ref20 PSTN and ref30 VPN data network and in the admitted prior art page 2 lines 4-10 includes Network address translators (NAT) therefore it is inherent that the first network addressing scheme and second network addressing scheme are different); a VPN gateway interfacing the first data network and a call server in the second data network; and a VPN converter interfacing the first (see admitted prior art figure 2 ref 30 VPN data network) and second data networks (see admitted prior art figure 2 ref 20 PSTN) and directly interfacing the first data network to the external network (see admitted prior art background page 2 lines 1-2); the steps of:

Causing the VPN gateway to pass communication session signaling traffic between an entity in one of the plurality of VPNs and the call server for establishing a communication session between the entity in one of the plurality of VPNs and an entity in an external network (see admitted prior art background page 2 lines 5-8),

The admitted prior art discloses all the subject matter of the claimed invention with the exception of:

 the external network handling communication session bearer traffic in a different format to that of the first data network; and

Causing the VPN converter to receive bearer traffic relating the
communication session established between the entity in one of the
plurality of VPNs and the entity in the external network and to convert the
bearer traffic between a data format of the first data network and the
different format used in

Somasundaram from the same or similar fields of endeavor teaches the use of Service Provider Edge Box including Router/NAT Device (see Somasundaram figure 1 box 104), which interfaces the plurality of VPNs network (see Somasundaram figure 1 ref 103 VPN1 and ref114 ref116 and ref118) and the Service Provider Network (see Somasundaram figure 1 ref108 and paragraph 28 public domain) and translation table includes a plurality of entries. Each entry includes a VPN identifier or VRF table identifier an "inside" local address, and an "outside" public address (see Somasundaram paragraph 35 and figure 4), and software program that implements the functions (see Somasundaram paragraph 44). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the Service Provider Edge Box including Router/NAT Device and the translation address scheme as taught by Somasundaram in the system of the admitted prior art in order to provide network address translator (NAT) function and enabling enterprise clients to be uniquely addressable (see Somasundaram paragraphs 7-10).

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Claim Rejections - 35 USC § 103

 Claims 31, 42, 48, 59, 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Somasundaram as applied to claim 30 above, and further in view of Munoz et al., hereinafter Munoz, (US6741585).

Regarding claims 31, 48, 65, the admitted prior art and Somasundaram disclose all the subject matter of the claimed invention with the exception of:

 the external network is a Time Division Multiplex 'TDM' network and the VPN converter is configured to convert communication session bearer traffic between the data format of the first data network and the TDM format of the external network.

Munoz from the same or similar fields of endeavor teaches the TDM interface (see Munoz et al. column 9 line 11-25 and line 46-65) and PSTN/ATM interworking (see Munoz et al. column 8line 20-53). Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to include TDM interface and PSTN/ATM interworking as taught by Munoz in the modified system of the admitted prior art and Somasundaram in order to provide interworking capabilities between different networks (see Munoz et al. column 1line 56 – column 2 line 7).

Regarding claims 42, 59, the admitted prior art and Somasundaram discloses all the subject matter of the claimed invention with the exception of using the parameters comprise an E.164 address. Munoz et al. from the same or similar fields of endeavor teaches the translation from E.164 addresses to IP address of gateways (see Munoz et al. column 6 line 11-12 and column 15 line 54-column 16 line 32). Thus, it

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would have been obvious to one of the ordinary skill in the art at the time the invention was made to include translation from E.164 addresses to IP address of gateways as taught by Munoz et al. in the system for handling shared services through virtual route forwarding (VRF) in order to provide interworking capabilities between different networks (see Munoz et al. column 1line 56 – column 2 line 7).

 Claims 34, 45, 51, and 62 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Somasundaram as applied to claim 30 above, and further in view of background of Somasundaram.

Regarding claims 34, 45, 51, and 62, the admitted prior art and Somasundaram disclose all the subject matter of the claimed invention with the exception of:

- (claim 34) the communication session comprises one of a voice over internet protocol 'VoIP' call, a telephony call, a video call, and a fax communication
- (claim 45) the communication session signaling traffic comprises 'VoIP' call signaling and the call comprises a VoIP call.

The background of Somasundaram teaches the use Voice over IP (see background of Somasundaram paragraph 7). Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to use the VoIP in the modified system of the admitted prior art and Somasundaram in order to offer services to multiple enterprise customers (see background of Somasundaram paragraph 7).

 Claims 36-37, 53-54, and 67-68 are rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art and Somasundaram as applied to claim 30 above, and further in view of Young et al., hereinafter Young, (US2003/0093563).

Regarding claims 36-37, 53-54, and 67-68, the admitted prior art and Somasundaram discloses all the subject matter of the claimed invention with the exception of using an encoding format being one of G.711, G.729, and G.726. Young from the same or similar fields of endeavor teaches the supporting CODECs include G.711 and G.729 (see Young paragraph 91 line 6). Thus, it would have been obvious to one of the ordinary skill in the art at the time the invention was made to include supporting CODECs include G.711 and G.729 as taught by Young et al. in the system for handling shared services through virtual route forwarding (VRF) in order to provide different encoding format of call services.

Response to Arguments

 Applicant's arguments with respect to claims 30-74 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

 The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bradd et al. (US2003/0118002) discloses a methods and apparatus for setting up telephony connections between two address domains having overlapping address ranges.

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Ould-brahim et al. (2003/0177221) discloses a resource allocation using a n autodiscovery mechanise for provider-provisioned layer-2 and layer-3 virtual private networks.

Forslow (US7155518) discloses extranet workgroup formation across multiple mobile virtual Private networks.

Arrow et al. (US6226751) discloses method and apparatus for configuring a virtual private network.

Boden et al. (US7107614) discloses system and method for network address translation intergration with IP security.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to WUTCHUNG CHU whose telephone number is (571)270-1411. The examiner can normally be reached on Monday - Friday 1000 - 1500FST

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan D. Orgad can be reached on 571 272 7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/WC/ Wutchung Chu

/Edan Orgad/ Supervisory Patent Examiner, Art Unit 2619